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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/199,723	11/25/1998	GRAHAM W. GLASS	073388.0110.	4018

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EXAMINER
LAO, SUE X

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/199,723	GLASS, GRAHAM W.	
	Examiner	Art Unit	
	S. Lao	2126	

-- The MAILING DATE of this communication appears on the c ver sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-7 are pending. This action is in response to the appeal brief filed 4/22/2003.

2. The finality of the rejection of the last Office action is withdrawn upon further consideration of applicant's arguments filed 4/22/2003.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and © may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-7 are rejected under the judicially created doctrine of obviousness - type double patenting as being unpatentable over claims 1-8 of U.S. Patent No.

6,415,315 to Glass in view of claims 1-15 of U.S. Patent No. 6,389,452 to Glass. For example, claims 1-8 of U.S. Patent No. 6,415,315 to Glass teaches, regarding claim 1, moving a first object (move an object) from a current position (current host address and port number) to a new position (new host address and port number) in the computer network; retaining an old version of the first object (retain old version) at the current position; creating a forwarder object (forwarder object) from the old version of the first object at the current position in response to establishing the first object at the new position (has been established); receiving a message at the current position destined for the first object from a second object (queue message); routing the message through the forwarder object to the first object at the new position (forward message). Claims 1-8 of U.S. Patent No. 6,415,315 to Glass does not explicitly teach placing information with respect to the new position at the forwarder object, while this would have been obvious for performing forwarding, claims 1-15 of U.S. Patent No. 6,389,452 to Glass teaches placing information with respect to the new position (represent receiver object in second host address and port number, maintain address) at the forwarder object (virtual object). Claims 1-8 of U.S. Patent No. 6,415,315 to Glass teaches, regarding claim 6, current and new host address and port number (current address and port number, new host address and port number). Claims 1-15 of U.S. Patent No. 6,389,452 to Glass teaches, regarding claims 2-4, creating a reply message at the first object, the reply message including information with respect to the new position (reply message), sending the reply message directly to the second object (deliver reply message according to address location carried in messenger), creating a subsequent message at the second object, the subsequent message being destined for the first object (reply message); sending the subsequent message to the first object at the new position received in the reply message (deliver), the subsequent message is sent directly to the first object without routing through the current position or the forwarder object (using updated address). Claims 1-15 of U.S. Patent No. 6,389,452 to Glass teaches, regarding claims 5 and 7, the forwarder (virtual object) is destroyed after routing the

message to the first object / the forwarder object is given a same lifespan as the first object (maintain a lifespan of the receiver object).

6. Claims 1-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 09/451,495 to Glass in view of U.S. Patent No. 5,396,630 to Banda et al. For example, claims 1-19 of copending Application No. 09/451,495 to Glass teaches, regarding claim 1, moving a first object from a current position to a new position in the computer network (move primary object to a new host address and port number); retaining an old version of the first object at the current position (retain an old version of the primary object at the current host address and port number); creating a forwarder object from the old version of the first object at the current position (reference holder at current host address and port number) in response to establishing the first object at the new position (create new version of primary object at new host address and port number); placing information with respect to the new position at the forwarder object (store new host address and port number in reference holder); receiving a message at the current position destined for the first object from a second object (complete and suspend new messages at current host address and port number); routing the message through the forwarder object to the first object at the new position (forward suspended message to new host address and port number for processing). Claims 1-19 of copending Application No. 09/451,495 to Glass teaches, regarding claims 2-4, creating a reply message at the first object, the reply message including information with respect to the new position (message to new version of primary object), sending the reply message directly to the second object (resend the message to new host and port number), creating a subsequent message at the second object, the subsequent message being destined for the first object (message to new version of primary object). While claims 1-19 of copending Application No. 09/451,495 to Glass does not explicitly teach sending the subsequent message to the first object at the new position received in the reply message directly to the first object without routing through

the current position or the forwarder object, this is met by Banda (col. 7, lines 4-25). Claims 1-19 of copending Application No. 09/451,495 to Glass teaches, regarding claims 5 and 7, the forwarder is destroyed after routing the message to the first object / the forwarder object is given a same lifespan as the first object (deregister and garbage collect the primary object). Claims 1-19 of copending Application No. 09/451,495 to Glass teaches, regarding claim 6, current and new host address and port number (current address and port number, new host address and port number).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, ie., all limitations in claims 17 of the instant application.

7. Claims 1, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al (U S Pat. 5,325,524) in view of La Porta et al (U S Pat. 6,085,086).

As to claim 1, Black teaches a system for locating mobile objects in a computer system. Black illustrates and provides detailed explanation for moving a first object [mobile objects, col. 2, e.g. object A2] from a current position [storesite, e.g. remote node 2: to a new position ["a second remote node" or "a third remote node," col. 5 lines 47-50] in a computer network, creating a forwarder object at the current position [second and third remote nodes contain TADS in the LII], placing information with respect to the new position at the forwarder object [TADs contain a forwarding address]. An LPC or RPC is sent from an invoking object [col. 5 lines 1-29; Fig.3 step 1] to "Node in Best Available TAD" [Fig 3 step 6]. At the remote node or "Node in Best Available TAD" shown in Figure 4, the RPC message is forwarded to another remote node by the LII according to the TAD object information indicating the forwarding address. Possibility 3 (7c) shows the path where the intended recipient [first object] receives and

processes the request. However, Black does not teach storage of the forwarding address utilizing the old version of the first object.

La Porta teaches forwarding message (message) to mobile objects (migrate a user process, Condor mechanism), wherein a forwarder object (temporary stub which stores and forwards arriving messages) is created from the old version of a moving object (parent version of user process). Col. 5, lines 14-56; col. 7, lines 4-6; col. 8, line 23 - col. 9, line 3. Therefore, it would have been obvious to create the forwarder object utilizing the old version of the first object in Black. The motivations to combine the teachings of Black and La Porta include the following. Black teaches forwarding messages/invocations to mobile objects whose locations and thus availability change, which to one of ordinary skill in the art, requires asynchronous mode of messaging. Black does not provide a mechanism to support asynchronous mode of messaging. La Porta provides such a mechanism (Condor mode). Therefore, one of ordinary skill in the art would have been motivated to use the mechanism of La Porta to provide an asynchronous mode of message communication in Black.

As to claim 5, Black teaches the forwarder is destroyed after routing the message to the first object [Through TAD updating, old TADS will be destroyed. See column 6 lines 36-63].

As to claim 6, Black teaches current and new positions are specified by host address corresponding to one or more computing devices [server addresses, col. 1, lines 34-55]. It is noted that various port numbers are known to designate specific purposes such as requesting information or function execution, thus it would have been obvious to include port numbers with host addresses in Black.

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al in view of La Porta et al as applied to claim 1 and further in view of Banda et al (U S Pat.5,396,630).

As to claims 2-4, Black teaches creating a reply message with information with respect to the new position [results returned with the best available TAD for future

requests, col. 8 lines 1720; see Fig. 4 step 15]. However, Black is silent on sending the reply message directly to the second object.

Banda teaches inter-object communication, wherein, after a communication path is established between two objects via an intermediate object (MD), subsequent messages are sent directly between the two objects without routing through the intermediate object (col. 7, lines 4-25). Given the teaching of Banda, it would have been obvious to send a subsequent message directly to the first object without routing through the current position or the forwarder object (intermediate object) in Black. One of ordinary skill in the art would have been motivated to combine the teachings of Black and Banda because this would allow communications across processes without having to produce new protocols for each additional process (Banda, col. 2, lines 9-13), which is desirable to support object/process migration in Black.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al in view of La Porta et al as applied to claim 1 and further in view of SOM (SOMoject Developer's Toolkit Programmer's Guide, Volume I: SOM and DSOM).

As to claim 7, Black teaches (pages 275-276) destroying (see discussion of claim 5) the forwarder object which is a proxy for the first object. SOM teaches destroying both the proxy and the underlying object together (function somDestruct()) such that they have the same lifespan. Therefore, it would have been obvious that the forwarder object (proxy for the first object) of Black is given a same lifespan as the first object. One would have been motivated to combine the teachings of Black as modified with SOM because this would have enhanced object management both at development time and at run-time by using the SOM framework.

10. Applicant's arguments filed 4/22/2003 have been considered but are moot in view of the new ground(s) of rejection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (703) 305-9657. A voice mail service is also available at this number. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7238 for After Final communications, (703) 746-7239 for Official communications and (703) 746-7240 for Non-Official/Draft communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Sue Lao
July 11, 2003